This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Previously presented) A computer-executed method of retrieving XML data from a database, the method comprising:

creating a primary table structure to hold XML data as a binary large object in an XML column, wherein each row in the primary table comprises a primary key;

creating a primary XML index relating to the primary table structure, where the primary XML index includes a first XML path to a node table;

populating the primary table and the primary XML index, wherein the primary XML index is populated by shredding XML values stored as the binary large object in the XML column of the primary table, and wherein the XML index preserves document order and structure by duplicating a respective primary key from the primary table and combining it with an XML node identifier for each entry in each node table;

creating an alternate secondary path index in a form of (HID, HID value, PK, XID) to reduce a number of join operations for queries on the primary XML index table, wherein HID represents a hierarchical identifier, HID value represents a path efficiency, PK represents a primary key, and XID represents an XML node identifier;

querying on the primary table, which then uses the created XML path indexes by directing the query to a location identified in the XML index node table to satisfy the query, whereby XML data is retrieved from the database; and

retaining the primary table and primary XML index so that subsequent queries execute faster than an initial query.

2. (Canceled)

3. (Currently amended) The method of claim 1, wherein the node table comprises a ~~B+ tree~~ B+-tree structure.

4. (Canceled)

5. (Previously presented) The method of claim 1, wherein the creating a primary table structure comprises creating a structure for XML data and non-XML data.

6. (Previously presented) The method of claim 5, wherein the querying retrieves XML and non-XML data.

7. (Previously presented) The method of claim 1, wherein the method is performed by a database engine.

8. (Previously presented) The method of claim 1, further comprising:

populating the secondary XML index; and

querying on the primary table wherein the query utilizes the primary XML index and the secondary XML index to retrieve the XML data.

9. (Previously presented) The method of claim 1, wherein the querying further comprises utilizing multiple path expressions in the retrieval of the XML data.

10. – 18. (Canceled)

19. (Previously presented) A machine-readable medium having instructions therein, executable by a machine to perform a method of retrieving XML data from a database using a query, the method comprising:

creating a primary table structure to hold XML data as a binary large object in an XML column, wherein each row in the primary table comprises a primary key;

creating a primary XML index relating to the primary table structure, where the primary XML index includes a first XML path to a node table;

populating the primary table and the primary XML index, wherein the primary XML index is populated by shredding XML values stored as the binary large object in the XML column of the primary table, and wherein the XML index preserves document order and structure by duplicating a respective primary key from the primary table and combining it with an XML node identifier for each entry in each node table;

creating an alternate secondary path index in a form of (HID, HID value, PK, XID) to reduce a number of join operations for queries on the primary XML index table, wherein HID represents a hierarchical identifier, HID value represents a path efficiency, PK represents a primary key, and XID represents an XML node identifier;

querying on the primary table, which then uses the created XML path indexes by directing the query to a location identified in the XML index node table to satisfy the query, whereby XML data is retrieved from the database; and

retaining the primary table and primary XML index so that subsequent queries execute faster than an initial query.

20. (Canceled)

21. (Previously presented) The machine-readable medium of claim 19, wherein the node table comprises a B+-tree structure.

22. (Canceled)

23. (Previously presented) The machine-readable medium of claim 19, wherein the creating a primary table structure comprises creating a storage table for XML and non-XML data.

24. (Previously presented) The machine readable medium of claim 19, wherein the querying retrieves XML data and non-XML data.

25. (Currently amended) A computer system for performing queries on XML data, the system comprising:

an input device for receiving a query;

a processor for executing the query;

at least one organization of XML data;

a software structure providing an XML index of the XML data stored in a primary table as a binary large object, wherein each row in the primary table comprises a primary key, wherein nodes of the XML index are organized as a B+-tree, and

wherein the XML index is populated by shredding XML values from the binary large object such that the XML index preserves document order and structure by duplicating a respective primary key from the primary table and combining it with an XML node identifier to create a first XML path for each entry in each node table; ~~and~~

means for creating an alternate secondary path index in a form of (HID, HID value, PK, XID) to reduce a number of join operations for queries on the primary XML index table, wherein HID represents a hierarchical identifier, HID value represents a path efficiency, PK represents a primary key, and XID represents an XML node identifier [[.]] ; and

an application program which allows the processor to utilize the created XML path indexes as tools for performing the query against the primary table wherein the query is executed and results of the query are returned in response to the query.

26. (Previously presented) The system of claim 25, wherein the application program is database management system software and the processor executes the application program.

27. (Previously presented) the system of claim 25, further comprising an output device wherein the results of the query are provided for examination.

28 – 33. (Canceled)